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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/004,001	11/01/2001	Wen Zhao	555255012288	7436

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Joseph M. Sauer, Esq.
Jones, Day, Reavis & Pogue
North Point
901 Lakeside Avenue
Cleveland, OH 44114

EXAMINER

PHAM, TUAN

ART UNIT	PAPER NUMBER
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2643

DATE MAILED: 07/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/004,001	Applicant(s) ZHAO ET AL.	
	Examiner TUAN A. PHAM	Art Unit 2643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12, 14, 15, 18 and 27-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.


REXFORD BARNIE
PRIMARY EXAMINER

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see Applicant's remark, filed on 02/17/2005, with respect to the rejection(s) of claim(s) 1-37 under 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Goodwin et al. (U.S. Patent No.: 6,218,966, hereinafter, "Goodwin").

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-12, 18, 27-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dayton et al. (U.S. Patent No.: 4,799,254, Hereinafter, "Dayton") in view of Goodwin et al. (U.S. Patent No.: 6,218,966, hereinafter, "Goodwin").

Regarding claims 1, 18, and 30, Dayton teaches a method and communication device (see figure 8), comprising:

a multifunctional keyboard having a plurality of letter keys, wherein each letter key is configured to generate a keyboard output signal (see figure 4, key board 26 with plurality of key with letter, col.7; ln.22-35);

a processor coupled to the multifunctional keyboard that is configured to convert each keyboard output signal generated by the letter keys into a character code (see figure 8, controller 50, col.5, ln.5-15, figure 11, col.8, ln.3-29);

means for converting each keyboard output signal generated by the letter keys into a telephony tone signal (see figure 8, figure 11, controller 50, col.8, ln.2-29);

a keyboard mode control software module (read on stored instruction) operating on the processor that controls whether the keyboard output signals from the letter keys are converted into character codes or telephony tone signals (see figure 8, controller 50, col.5, ln.5-15, figure 11, col.8, ln.3-29, it is inherently that the stored instructions to control the keyboard for supporting the plurality modes such as telephone mode, calculator mode and edit mode), and the letter key are converted into character codes or telephony tone signals (see figure 8, controller 50, col.5, ln.5-15, figure 11, col.8, ln.3-29).

It should be noticed that Dayton fails to teach a plurality of software applications stored in a memory of the communication device and executed by the processor, the plurality of software applications each having an associated keyboard mode; the keyboard mode control software module being operable to automatically determine the keyboard mode associated with an active one of the plurality of software applications, wherein the keyboard mode is used by the keyboard mode control software module to automatically determine whether the keyboard output signals from the letter keys. However, Goodwin teaches such features (see col.7, ln.15-32, it is inherently that the word processor program is stored in the memory, and a keyboard mode control software module is build-in the CPU 14).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Goodwin into view of Dayton in order to save cost as suggested by Dayton at column 1, line 62-67.

Regarding claims 2 and 31, Dayton further teaches the communication device wherein the multifunctional keyboard is a QWERTY style keyboard (see col.4, ln.60-62).

Regarding claims 3 and 32, Dayton further teaches the communication device wherein the converting means is the processor (see col.5, ln.1-15).

Regarding claims 4 and 33, Dayton further teaches the communication device wherein the converting means is a tone signal generator (see figure 8, DTMF generator 53).

Regarding claims 5 and 27, Dayton further teaches the method and communication device wherein the tone signal generator also generates an audible tone when one of the letter keys is pressed (see col.9, ln.20-26).

Regarding claim 6, Dayton further teaches the communication device wherein the keyboard mode control software module also controls whether the keyboard output signals from the letter keys are converted into both character codes and telephony tone signals (see figure 8, figure 11, col.8, ln.3-29).

Regarding claim 7, Dayton further teaches the communication device wherein the telephony tone signal generated for each letter key corresponds to an integer ranging from two (2) to nine (9) (see col.5, ln.25-30).

Regarding claims 8 and 34, Dayton further teaches the communication device wherein the telephony tone signals are Dual Tone Multi Frequency (DTMF) signals (see col.6, ln.2-18).

Regarding claims 9 and 35, Dayton further teaches the communication device wherein the character codes are American Standard Code for Information Interchange (ASCII) character codes (see figure 11, col.6, ln.60-64).

Regarding claim 10, Dayton further teaches the communication device wherein the plurality of keys on the multifunctional keyboard also includes a plurality of number keys, each of which is configured to generate a keyboard output signals; the processor is also configured to convert the keyboard output signals generated by the number keys into character codes; the converting means also converts the keyboard output signals generated by the number keys into telephony tone signals; and the keyboard mode

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control software also controls whether the keyboard output signals from the number keys are converted into character codes or telephony tone signals (see figure 4, keyboard 26 with plurality of key with letter, col.7, ln.22-35, see figure 8, figure 11, controller 50, col.8, ln.2-29).

Regarding claim 12, Goodwin further teaches the communication device wherein the memory is coupled to the processor and includes a service store memory location that associates each software application with the associated a keyboard mode (see col.7, ln.15-32, it is inherently that the word processor program is stored in the memory).

Regarding claim 28, Dayton further teaches the communication device wherein the audible tone may be enabled or disabled by a communication device user. It is obvious the user can disable or enable the audio tone whenever they want.

Regarding claim 29, Dayton further teaches the communication device wherein the audible tone generated while the communication device is executing the telephony mode is different from the audible tone generated while the communication device is executing the data mode (see col.5, ln.15-34, the DTMF tone should be different from ASCII tone).

4. Claims 14-15, and 36-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dayton et al. (U.S. Patent No.: 4,799,254, Hereinafter, "Dayton") in view of Goodwin et al. (U.S. Patent No.: 6,218,966, hereinafter, "Goodwin") as applied to claims 1 and 30 above, and further in view of Miller (U.S. Patent No.: 5,660,488).

Regarding claims 14 and 36, Dayton and Goodwin, in combination, fails to teach the communication device wherein the multifunctional keyboard is uniformly distributed across a housing of the communication device such that one half of the letter keys are located on a left-hand side of the housing and the remaining letter keys are located on a right-hand side of the housing. However, Miller teaches such features (see figure 4, keyboard 440).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teaching of Miller, into view of Dayton and Goodwin in order to conveniently operate the keyboard.

Regarding claims 15 and 37, Miller further teaches the communication device wherein the letter keys on the left-hand side of the housing are tilted at a negative angle from vertical and the letter keys on the right-hand side of the housing are tilted at a positive angle from vertical (see figure 4, keyboard 440).

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Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tuan A. Pham whose telephone number is (571) 272-8097. The examiner can normally be reached on Monday through Friday, 8:00 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Curtis Kuntz can be reached on (571) 272-7499 and

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June 22, 2005
Examiner

Tuan Pham


REXFORD BARNIE
PRIMARY EXAMINER